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NOTE ON THE DUSKY SALAMANDER.

BY HENRY W. FOWLER.

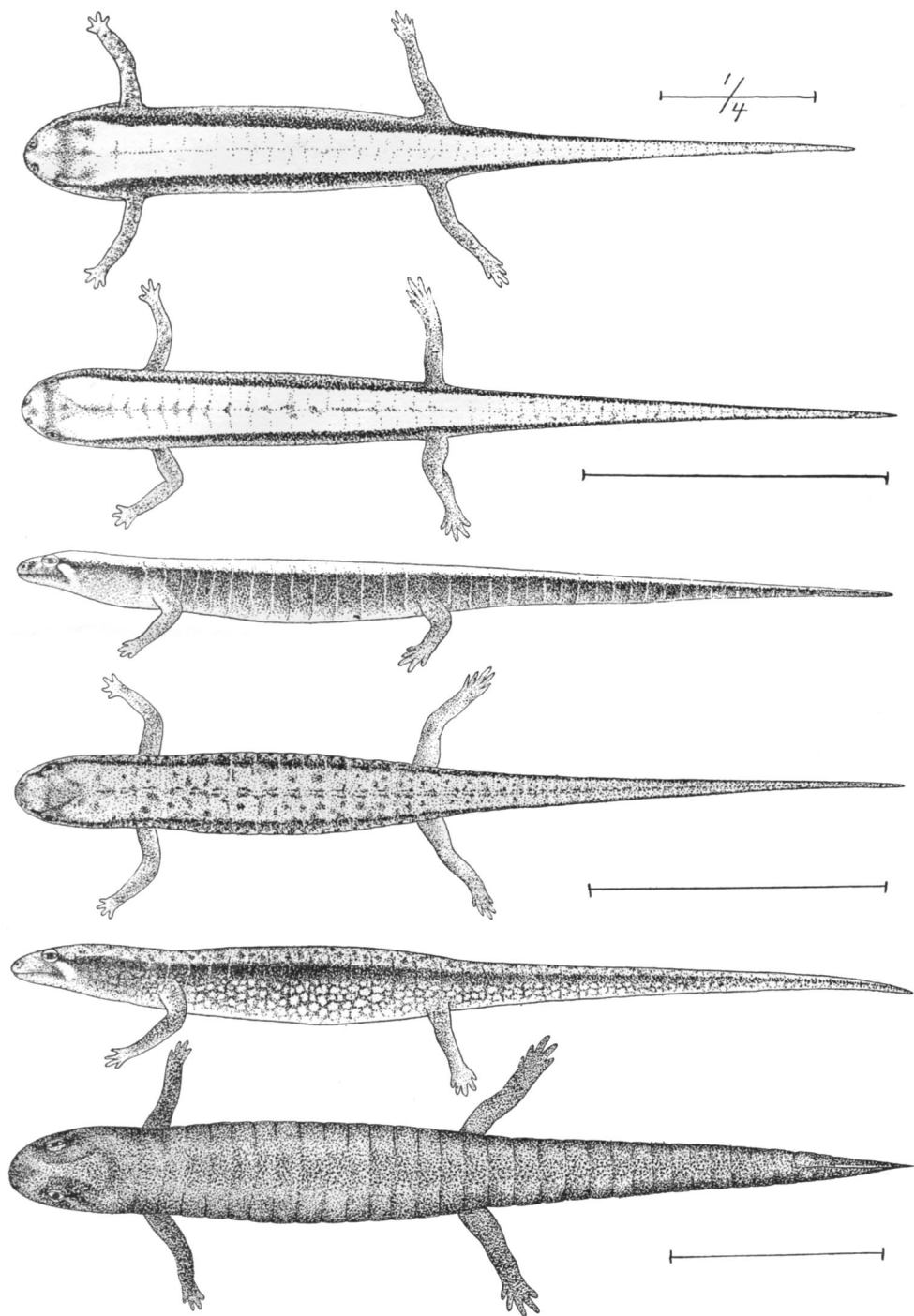
Near Port Allegany, in McKean county, and in the valleys of the headwaters of the Genesee, Allegheny and Susquehanna, in Potter county, Pa., Mr. T. D. Keim and the writer spent a few days, studying the fauna, in the summers of 1904 and 1906. Most of the hemlock forests have been cleared off, except near Port Allegany, where one still has but a short time left to study the animal life in its primeval conditions.

Perhaps the most abundant in individuals among cold-blooded vertebrates was the little dusky salamander, *Desmognathus fusca*. It was found nearly everywhere in the valleys, about and in streams, and on the comparatively dry mountain-tops, though there less numerous and more solitary. About the headwaters of the Genesee they were even more abundant, so that we had the opportunity of examining multitudes of living examples. So abundant were they in some localities that as many as four or five would frequently occur under a single small stone. Owing to the nature of the brooks about the Genesee headwaters, which are very swift, cold and sinking out of sight in some places to appear again in others, very favorable habitats are secured in the comparatively damp intercourses which are only flooded in times of heavy rains.

Very great range in color-pattern and color-variation was noted in this species. Young an inch long had the pale area on the back more or less immaculate pink or pale brown. The uppermost of the accompanying figures, Plate XIII, indicates this type. They varied from these shades into the dusky-black adults. They did not always appear to change from pinkish to brown, as some with pink backs were found equally as large as the larger brownish ones. The pale colors of the back were not always immaculate, many being variously blotched or speckled with darker or brownish. Very dark or blackish examples, not larger than the largest pink or brown ones, also occurred, though these all showed traces to some extent of the dorsal color-pattern. Most all full-grown examples lose every trace of the dorsal color-pattern in the blackish of the back.

A comparison of the types of *Desmognathus ochrophæa* Cope seems to leave it perfectly clear that it is nothing more than the intermediate brown color-variety of *D. fusca*, which I have represented in the two lower median accompanying figures. The identity of *D. ochrophæa* with *D. fusca*, however, was first suggested by Mr. G. M. Allen in the *Proc. Bost. Soc. N. H.*, 29, 1901, p. 73. In view of the material examined I am now able to fully endorse Mr. Allen's view as final. The characters pointed out by Cope in 1889 are certainly not of specific value as they range more or less through most of my material. The habitat of the *ochrophæa* stage is not confined entirely to the mountain-tops, as the animals are found under damp stones about streams and in the valleys. I do not agree with Cope's suggestion that *Salamandra haldemani* Holbrook is "an unusually spotted *Spelerpes bilineatus*" as the tail is somewhat short. It agrees with some of my examples of *D. fusca* to some extent in the color of the belly, which is usually more or less livid in life. It had best be regarded as a synonym of *D. fusca*.

As small and medium-sized examples greatly resemble *Plethodon erythronotus*, which is rather abundant in the dry forests, a good character for distinguishing the two species at a glance will be found in the pale or whitish streak extending down from the eye behind. This is present on most all examples and may frequently be traced to some extent in the blackish adults.



FOWLER ON DESMOGNATHUS FUSCUS.